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AUTHOR Kelley, Michael R.; Pappas, Linda
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ABSTRACT

At Creighton Univesity, a Jesuit university in Nebraska, freshmen defined as at risk academically were required to participate in a student success program, the Master Student Course (MAST). The MAST program was designed to help these at-risk students develop college-level study and thinking skills and to provide an opportunity for examination of motivation and goals. The focus of the program was on time management, effective reading, effective note taking, library orientation and use skills, test preparation, and test taking strategies. In the 4 years since the program began, data have been collected on: (1) 89 students randomly selected from the 1989 and 1990 freshman classes; (2) the MAST-Pass group of 82 at-risk students from 1989 and 1990 freshman classes who passed the MAST course; (3) the MAST-Fail group of 28 at-risk students who failed or withdrew from the MAST program; and (4) 66 at-risk students who were eligible for MAST but who did not participate. Groups who took the MAST course were compared with those who did not on dimensions of previous academic performance, ability level, subsequent retention level, and subsequent academic performance. The findings revealed that MAST-Pass students had statistically significantly better academic performance during the semester the course was offered, compared to their previous semester, and compared to other groups who did not take or successfully complete the course. (NB)

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ACPA 1992 PRESENTATION

TRANSITION TO REQUIRED LEARNING ASSISTANCE:

A FOUR YEAR PROGRAM EVALUATION

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San Francisco

Spring, 1992

Presenters: Michael R. Kelley, Ph.D.
Linda Pappas, M.S.

INTRODUCTION: In the Spring of 1988, Creighton University began a program of learning assistance for its academically "at risk" students. The program has been changed and the focus sharpened in the five years since it was begun. The changes have included an increasingly effective policy of requiring attendance in the learning assistance program for certain academically "at risk" students. The program began by focusing on freshmen who had "failed" their first semester, requiring attendance at a learning assistance program during their second semester. Later we identified a group of likely failures among the freshmen who had only been admitted. These students were required to attend the program during their first semester before they had a chance to fail. Data on all students involved in the program has been gathered throughout their academic careers. Data on several "no treatment" groups has also been gathered for comparison purposes.

Creighton is a private, Catholic, Jesuit University located in Omaha, NE. There are approximately 6000 students, 4000 undergraduates, 2000 graduate and professional school students. Creighton is identified by many of those who attend as a "pre-professional" school, since many students have hopes of continuing their education in medicine, law, or dentistry, either at Creighton or elsewhere after they graduate.

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WHO ARE THE ACADEMICALLY "AT RISK" STUDENTS?

Functionally, freshmen students who achieve a first semester QPA below 2.0 are defined as academically "at risk." They are at risk of continuing their low level of academic achievement. They are at risk of not being retained at the University either due to academic dismissal or voluntary withdrawal. In Spring, 1988, 58 freshmen who had failed their first semester were identified. Data gathered on these students included ACT scores, high school class ranks, as well as scores on a brief intelligence test, reaking skills test, personality tests, and learning skills tests. There were no comparison groups from the University with

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which to compare these students. Nevertheless there are comparative standardization groups for some of the tests.

The "at risk" students are identified as "MAST students," meaning they participated in a program entitled the Master Student Course.

Abilities

All students who apply to Creighton take the ACT test. The Standard Scores for this test range from 1 - 36. The mean ACT test score for the 58 students who completed the initial test battery is 20.17, with a standard deviation of approximately three 3.0, and a range of 14 - 27. This compares to a mean ACT score for all Creighton freshmen of 22.9 for 1988.

The high school class rank for MAST students was .555, with a standard deviation of .23. This compares to a class rank of approximately .75 as the mean for all freshmen at our school.

The Shipley-Hartford Institute of Living Scale was used to measure the intelligence of the MAST students. This is a very brief paper and pencil test that assesses vocabulary and abstract reasoning. The Shipley-Hartford scores can be translated into estimated WAIS-R IQ scores. The MAST students achieved a mean S-H IQ score of 107.39, with a standard deviation of 6.8. There was no available comparison group on the Shipley-Hartford.

The Nelson-Denny Reading Test was used to measure the reading ability of our MAST students. The test measures vocabulary, comprehension, and reading rate. The MAST students scored at the 57.32 percentile when compared to other four year college freshmen. The standard deviation was 17.55.

Observations on Abilities

The ACT and high school class rank scores suggest that the MAST students, as a whole, demonstrate potential academic achievement (as measured by the ACT) and actual academic achievement (as measured by their high school class rank) about one standard deviation below the mean for their whole freshman class. Their reading ability compares favorably to other college freshmen. There appears to be a wide variation within the group, with some reading quite well, but a number having difficulty reading at the level of those they are competing with. It would appear that these students will have to work harder than the average student in their class, to achieve the same grades.

Motivation and Study Skills

The motivation and attitudes about being in college for the MAST students were measured using the Inventory for Counseling and

Development, and the Learning and Study Skills Inventory. Each of these tests compare the MAST students to a sample of college students across the nation.

The ambition scale for the ICD measures the degree to which competition, productivity and success are important. The practicality scale measures the degree to which academic performance is expected to be followed by extrinsic rewards like high grades and recognition. The MAST students scored in the mid range, at about the 50th percentile on the measures of ambition and practicality.

The persistence scale measures the tendency to start work on a task and then pursue it to completion. The orderliness scale measures the preference for planning and organization in academic work and personal life. The MAST students scored at the 41st and 42nd percentile on persistence and orderliness.

The academic excellence, academic capacity, and academic motivation scales measure tendencies to over achieve, to study hard, and the desire to do well academically. The MAST students scored between the 39th and 43rd percentile on these scales, when compared to college students across the nation.

The LASSI scales which measure motivation and attitude were much at the 31st and 26th percentile for the MAST students. And specific study skills like time management, concentration, and selecting main ideas were measured at around the 20th percentile for the MAST students.

We used another test, the Preferred Environmental Study Skills (PEPS) to assess particular needs the students have in their study. The scores for this test are based on the 1989-91 MAST students. The PEPS scores indicate that the MAST students expect a very explicit structure to accompany their academic assignments. The MAST students seem to require specific structure and guidance for their more complex assignments, imposed from the outside, a level of structure more like what they may have experienced in high school.

The 1989-91 MAST students were also given the Myers-Briggs Type Indicator to better assess their learning preferences. A larger than expected number of MAST students are extroverted, indicating that they prefer to study in an interactive mode, talking and exchanging information with their peers, a process that leads to many distractions. The MAST students also prefer a low level of personal predictability and planning. They are easily bored and do not impose structure upon themselves to complete tasks, preferring to be personally spontaneous.

Observations about motivation and study skills

It appears that the MAST students do not disagree theoretically with the idea that obtaining a college degree will be an advantage. They expect that if they work hard, they will be rewarded. But they compare poorly with other college students on the practical attitudes of persistence and orderliness. They compare especially poorly with other college students on measures of specific study skills. They expect to be told exactly how to do their college assignments, yet paradoxically, they tend toward personal spontaneity and do not impose an organized study schedule on themselves.

Summary on Who Are They

The MAST students, as a whole, have lower academic achievement potential than their peers. They are likely to have to work harder than their peers to achieve at the same level. They are less skilled in specific study skills. They expect to be told what to do. They do not impose specific schedules for accomplishing work on themselves. They are less motivated for the extra hard work they must do. The MAST students do not have within their repertoire of behaviors and learnings from their own experience, the expectation or the ability to study long hours in order to compete against their often more talented peers.

DESCRIPTION OF MAST PROGRAM

The MAST program began in the Spring, 1988, with a 10 week pilot course meeting once each week for 90 minutes. Freshmen with a QPA below 2.000 from the previous semester were "strongly encouraged" by their Deans to attend the course. The course was based on the book Becoming a Master Student by David Ellis.

The following year, Fall, 1989, we had hired a full time academic success counselor who implemented a two hour course in the Spring semester for freshmen who had achieved a QPA below 2.0. There was difficulty in getting the Deans from the three undergraduate schools: Arts and Sciences, Nursing, and Business Administration to grant credit for the course. With the support of significant administrators, two colleges, Arts and Nursing, granted two course credit on a pass/fail basis for the course. All three Deans agreed to "require" their students to register for the course, though with the lack of academic credit from the Business College, most Business students did not attend regularly.

The course is entitled "Becoming a master student," two credit hour (pass/fail). The texts used are the Ellis text and Critical Thinking by Ryan Ruggiero. The goals of the course are (1) to assist students in developing college-level study and thinking skills, and (2) provide an opportunity for examination of motivation and goals. Attendance is required. Regular

assignments are given. The focus is on time management, effective reading, effective note taking, library orientation and use skills, test preparation and test taking strategies. Alcohol use is discussed with visiting lecturers. There is a testing component to the course. Learning styles are assessed using the Myers-Briggs Type Indicator and the Productivity Environmental Preference Survey (PEPS) from Price Systems, as well as the Learning and Study Strategies Inventory. The students are also given the Strong Interest Inventory, to assist in career exploration.

DATA PRESENTATION

The groups we have been gathering data on can be divided into four categories:

1) Normal Group:

A group of 89 students randomly selected from Fall 1989 and 1990 freshman class who obtained a QPA their first semester above 1.999.

2) The MAST-Pass group:

A group of 82 students from Fall 1989 and 1990 freshmen who obtained a QPA below 2.000 their first semester and who attended and passed the MAST course during their second semester.

3) The MAST-Fail group:

A group of 28 students from 1989 and 1990 freshman class who obtained a QPA below 2.000 their first semester, who registered for but failed or withdrew from the MAST course their second semester.

4) The Non-Participant group:

A group of 66 students from the Fall 1989 and 1990 freshman class who obtained a QPA below 2.000 their first semester, who were eligible for MAST, but who did not participate.

These groups will be compared on three factors:

a) ACT scores across all groups

b) their academic achievement, QPA in 1st, 2nd and 3rd semesters

c) their retention in 2nd, 3rd and 5th semesters.

ACT SCORES

The table for ACT scores can be found in the Addendum. The Normal students had a mean ACT score of 23.11, the MAST-Pass students a mean ACT of 20.02. The MAST-Fail and Non-Participants fell between the two at 21.75 and 22.31, respectively.

When we use an Analysis of Co-Variance, the MAST-Pass students' academic achievement is significantly lower than the Normal group. The MAST-Fail and Non-Participant groups are not significantly different from the Normal group.

Achievement Scores

The table for QPA scores can be found in the Addendum. The first semester QPA's show the Normal group at 2.943, and the rest of the groups, by definition and selection, significantly lower.

The second semester QPA scores are the most important, since the MAST course was offered during the second semester. The MAST-Pass group obtained a 2.093 QPA, while the MAST-Fail and Non-Participants obtained QPA's of 1.072 and 1.679, respectively.

An analysis of co-variance was done for the four groups, controlling for ACT scores and also controlling for first semester QPA scores. The MAST-Pass group QPA is significantly higher than the MAST-Fail group and Non-Participant groups for the second semester.

Each group was also compared against itself, first semester vs. second semester. See the table on correlation coefficients between first and second semester. The .02 correlation coefficient for the MAST-Pass group means that a given MAST-Pass student's first semester grades do not predict or correlate with that student's second semester grades.

A t-test was also computed for all groups comparing first and second semester QPA's. Only the MAST-Pass group improved significantly the second semester over the first semester QPA.

There is a clear and significant difference in the MAST-Pass group, compared against the other groups and compared against

itself the first semester. Clearly, for the MAST-Pass group, participation in and successful completion of the MAST course is associated with statistically significant improvement in their grades.

The third semester QPA's are 2.870 for the Normal group, 2.343 for the MAST-Pass group, .857 for the MAST-Fail group and 2.218 for the Non-Participants. The third semester QPA's represent a significant improvement for both the MAST-Pass group and the Non-Participants. The MAST-Fail group continues its pattern of failure. With the exception of the MAST-Fail group, the MAST-Pass and Non-Participants begin to look more alike. This may well be due to the attrition from both groups, especially the Non-Participants whose attrition was much higher than the MAST-Pass group, with the most successful participants remaining, the less successful students withdrawing from the University or being required to leave due to academic failure.

RETENTION

The Retention figures are being reported for the third semester, the beginning of the second year, and the fifth semester, the beginning of the third year. These semesters represent key decision times to return to the University after a three month absence, for another year of academic effort.

In the third semester, the Normal group returned at a rate of 89%, compared to the first year. The MAST-Pass group was retained at a rate of 74% compared to the first year. The MAST-Fail group returned at a 37% rate compared to the first year. The Non-MAST group returned at a rate of 36% compared to the first year.

In the fifth semester, the Normal group retained 67%, the MAST-Pass group retained 56%, the MAST-Fail group retained 5% (just one student) and the Non-Participant group retained 21%.

There is a significant retention effect across four groups and across three semesters. The Normal and MAST-Pass groups are being retained at significantly higher levels than the MAST-Fail and Non-Participant groups. It is not possible to conclude that the MAST course is the cause of the significant difference, since retention in college is so complex a behavior.

CONCLUSIONS

1) Attendance at a MAST course and passing the course is associated with statistically significant better academic performance during the semester the course is offered, compared

to the MAST-Pass group's previous semester, and compared to other groups who did not take or successfully complete the course.

2) Those who attend a MAST course are more likely to be retained in a third and fifth semester than those who fail or those who do not attend the course, though it is not possible to say that the MAST course is the cause of the better retention.

3) An aggressive effort at engaging and requiring students at risk for academic failure to attend a MAST course can have positive effects on both their academic performance and their persistence in the University they started.

ABILITIES OF TESTED FRESHMAN

TEST	MEAN	SD	RANGE
ACT	20.170	3.00	14 - 27
HIGH SCHOOL CLASS RANK	0.555	0.23	.12 - .94
SHIPLEY-HARTFORD IQ	107.390	6.80	90 - 119
NELSON-DENNY TOTAL READING SCORE (Compared to National Sample College Freshman)	57%ile	17.60	14 - 93%ile

ACT TEST SCORES

Analysis of Co-Variance

GROUPS	N	ACT	
		$\bar{X}$	SD
Normal 89/90	89	23.11*	4.41
MAST-Pass 89/90	82	20.02*	3.81
MAST-Fail 89/90	28	21.75	4.39
Non-Participants 89/90	66	22.31	3.88

* MAST-Pass lower than Normal, significant at .05

QPAs: SEMESTERS 1, 2, 3

GROUPS	SEMESTER #1	SEMESTER #2	SEMESTER #3
	$\bar{X}$	$\bar{X}$	$\bar{X}$
Normal 89/90	2.943	2.826*	2.870
MAST-Pass 89/90	1.571*	2.093*	2.343
MAST-Fail 89/90	1.178	1.072	0.857
Non-Participants 89/90	1.511	1.679	2.218

* Significant @ .05

Note: MAST-Pass significantly higher in Semester #2 than MAST-Fail and Non-Participants, controlling for ACT and 1st Semester QPA, using Analysis of Co-Variance

Note: MAST-Pass significantly higher in Semester #2 compared to Semester #1, using t-test

SEMESTER #1 vs. SEMESTER #2	
	Correlation Co-efficient
Normal	.52
MAST-Pass	.02
MAST-Fail	.33
Non-Participant	.37

RETENTION STATISTICS THROUGH SEMESTER #5

GROUPS	SEMESTER #2		SEMESTER #3		SEMESTER #5	
	N	%	N	%	N	%
Normal 89/90	91	99%	82**	89%	31*	67%
MAST-Pass 89/90	84	100%	62**	74%	24*	56%
MAST-Fail 89/90	20	93%	11**	37%	1*	5%
Non-Participants 89/90	38	58%	24**	36%	7*	21%

* '89 only for Semester #5

** X^2 Significant @ .05 across 3 semesters, 4 groups

MOTIVATIONAL ASPECTS OF SSC FRESHMEN

Inventory for Counseling and Development Scales

TEST	PERCENTILE FOR NATIONAL COLLEGE SAMPLE
AMBITION	45%ile
PRACTICALITY	41%ile
ORDERLINESS	33%ile
PERSISTENCE	28%ile
ACADEMIC EXCELLENCE (over achieve)	26%ile
ACADEMIC CAPACITY	32%ile
ACADEMIC MOTIVATION	24%ile

MOTIVATIONAL ASPECTS OF SSC FRESHMEN

Learning and Study Skills Inventory (LASSI)

TEST	PERCENTILE FOR NATIONAL COLLEGE SAMPLE
ATTITUDE	41.4%ile
MOTIVATION	23.1%ile
TIME MANAGEMENT	31.8%ile
ANXIETY	23.7%ile
CONCENTRATION	27.7%ile
INFO PROCESSING	41.1%ile
MAIN IDEAS	41.6%ile
STUDY AIDS	46.5%ile
SELF TESTING	24.5%ile
TEST STRATEGIES	57.8%ile